

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**  
MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.: MO-0130419

Owner: Ewert Brothers Farms  
Address: 714 College, Liberty MO 64068

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Ewert Brothers Compost Pad Site  
Address: 5923 Nebo Rd., Liberty, MO 64068

Legal Description: NE  $\frac{1}{4}$ , SW  $\frac{1}{4}$ , Sec 26, T51N, R31W, Clay County

Receiving Stream & Basin: Unnamed Tributary to Rush Creek (U)  
First Classified Stream and ID: Rush Creek (P) (03322)  
USGS Basin & Sub-watershed No.: (10300101-040002)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

All Outfalls SIC #2875

Composting operation over 5 acres composed of feedstocks from agricultural, wood, and food product sources. The operation is designed and operated as no-discharge of process wastewater.

This permit authorizes only wastewater, including storm waters, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

November 12, 2004  
Effective Date

November 11, 2009  
Expiration Date

  
Stephen M. Mahood, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

  
James R. Macy, Regional Director, Kansas City Regional Office

## **FACILITY DESCRIPTION (continued)**

Outfall #001 – Stormwater Storage

**Receiving Stream Watershed:** a gaining stream setting

### **Facility Type:**

No-discharge Storage and Irrigation System for year round flows into one storage basin.

Basin #1 – variable level

### **Recreational Season**

<b><u>Design Basis:</u></b>	<b><u>Avg Annual</u></b>	<b><u>(May – Sept)</u></b>	<b><u>Winter: (Oct – April)</u></b>
Design dry weather flows:	8050 gpd	12900 gpd	4590 gpd
Design with 1-in-10 year flows:	11500gpd	18430 gpd	6560 gpd
Design PE:	80.5		

### **Storage Basin:**

### **Depth from Bottom**

### **Pump down depth**

Freeboard: (top berm to Maximum 2 feet depth)

Maximum operating level: 5 feet depth

Minimum operating level: 2.0 feet depth

Storage volume: (minimum to maximum water levels) 4166000 gallons

1-in-10 year Annual Storm water flows into lagoon (R-E): 557000 cu. ft

<b><u>Storage Capacity:</u></b>	<b><u>Avg Annual</u></b>	<b><u>Days of Storage</u></b>	
		<b><u>May-Sept.</u></b>	<b><u>Winter</u></b>
Design for Dry weather Flows:	521 days	323 days	907 days
Design with 1-in 10 year flows:	365 days	226 days	635 days

### **Land Application:**

Irrigation Volume /year: 4166000 gallons (including 1-in-10 year flows)

Irrigation areas: 30 acres

Application rates/acre: 0.4 inches/year

Field slopes: less than 1percent

Equipment type: traveling gun

Vegetation: row crop

Application rate is based on: hydraulic loading rate

APPLICABILITY

1. This permit does not apply to the discharge of any water except emergency discharges during catastrophic rain events.
2. This permit applies to stockpiling of raw materials as necessary for the active production of compost. This permit also applies to the stockpiling of finished composts.
3. This permit does not apply to the compost quality, distribution, or use of the finished compost.
4. This permit does not apply to composting operations located within 100 feet of a water course, 300 feet of a lake, 1000 feet of a losing stream or sinkhole, or within 300 feet of a water supply well.
5. This permit applies to composting operations whose feedstocks include animal manure, animal litter, agricultural products and residuals, yard waste, wood waste, food products and food residuals.

EXEMPTIONS

1. Compost sites which include less than 5% biosolids, are under two (2) acres in size and operated so as not to discharge are exempt from permitting requirements.
2. Distribution or marketing of composts are exempt from permitting.
3. Uncomposted waste materials that are land applied in normal farming operations are exempt from permitting requirements. This exemption does not apply to stockpiles of materials that exceed two (2) acres in size at an operating location.

REQUIREMENTS

1. The permittee shall not stockpile raw materials for a period to exceed five (5) calendar days before mixing unless the stockpile location has a stormwater collection system or is roofed.
2. The permittee shall not allow non-biodegradable material to be placed in the compost, except that amendments which improve the quality of the compost may be added with prior approval from the department. Bags containing both non-biodegradable sealers and non-biodegradable plastics are considered to be non-biodegradable for purposes of this permit. The permittee shall not allow painted or treated wood products or those containing glues binders or additives to be placed in the compost.
3. Any storm water collection basin is subject to construction permitting requirements under 10 CSR 20-6.010 and 6.015. Basins must be sealed in accordance with 10 CSR 20-8.
4. The composting area shall have a base, which may be made of asphalt, concrete, compacted earth, or other materials and shall comply with the permeability limitations under 10 CSR 20-8.020(13) (A)4.
5. The permittee shall not allow industrial waste, industrial sludge, municipal mixed waste, municipal sewage sludge, septage, or any other form of domestic sewage to be placed in the compost.

6. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (b) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (e) There shall be no significant human health hazard from incidental contact with the water;
  - (f) There shall be no acute toxicity to livestock or wildlife watering;
  - (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
7. In order to reduce pathogens to a level suitable for distribution to the public, if the compost is to be sold or given away it shall:
  - a. have exhibited temperatures of at least 131 degrees Fahrenheit (55 degrees Celsius)
    - for a period of three consecutive days if the in-vessel method or static aerated pile method is used; **or**
    - for at least 15 consecutive days if the windrow composting method is used, including at least five turnings of the windrow; **or**
  - b. have undergone one of the other processes to Further Reduce Pathogens found in Appendix B of 40 CFR 503; **or**
  - c. the finished product will be tested each quarter to verify that the level of pathogens is such that the compost is equivalent to Class A with respect to pathogens as defined in 40 CFR 503.32. The results of this testing shall be submitted with the annual report.
8. All outfalls must be clearly marked in the field.
9. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (2) (C), and (D), 304(b) (2) and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - 1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; **or**
    - 2) Controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test, or other information indicates changes are necessary to assure compliance with Missouri Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's current 303(d) list.

REQUIREMENTS (continued)

10. Permittee shall adhere to the following Best Management Practices:
- (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehousing activities and prevent the contamination of storm water from these substances.
  - (b) Provide for the collection and proper disposal of waste products including, but not limited to, petroleum waste products and solvents. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, and shall include spill prevention, control and counter measures.
  - (c) Store all paint, solvents, petroleum products, and petroleum waste products in appropriate storage containers (such as drums, cans, or cartons) so that these materials are safely contained and not exposed to storm water.
  - (d) Provide good housekeeping practices on the site to keep trash or other solid waste from entering waters of the state.
  - (e) Designate an individual as responsible for environmental matters. Inspect, once per month on workdays, any structure that functions to prevent pollution from storm water or to remove pollutants from storm water. In addition, inspect these structures within 24 hours of each rainfall event of one inch or more. Inspect the facility in general to ensure that any Best Management Practices are continually implemented and remain effective.
11. Permittee shall notify the Department within 24 hours of any discharge and shall submit a written report detailing the cause of the discharge and what steps have been taken to prevent such a discharge from recurring. The written report shall be submitted to the Department within 5 days of the discharge.

12. Wastewater Irrigation System.

- a. Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
- b. Irrigation Design. Design and operation shall be in accordance with 10 CSR 20-8.020(15). Permittee shall operate the land application system in accordance with the design parameters listed in the Facility Description section of this permit:

No-Discharge System. When the Facility Description is A No-Discharge, wastewater must be stored and irrigated at appropriate times. There shall be no-discharge from the irrigation site or storage lagoon except due to precipitation exceeding either the 1-in-10 year rainfall event for the design storage period or the 25-year-24-hour rainfall event.

- c. Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of the 1-in-10 year or 25-year-24 hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
- d. Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
- e. General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.

REQUIREMENTS (continued)

- f. Saturated/Frozen Conditions. There shall be no irrigation during frozen, snow covered, or saturated soil conditions. There shall be no irrigation on days when more than 0.2 inch of precipitation is received or when there is observation by operator of an imminent or impending rainfall event.
  - g. Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling; or 50 feet of the property line.
  - h. Public Access Restrictions. Public access shall not be allowed to the irrigation site(s). Fencing and public access restrictions to land application sites shall be in accordance with requirements in 10 CSR 20-8.020(15)(b)(5).
12. i. Equipment Checks during Irrigation. The irrigation system and application site
13. shall be visually inspected at least once/4 hours during wastewater irrigation to
14. check for equipment malfunctions and runoff from the irrigation site.

ANNUAL REPORT

Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period. The report shall include the following:

- a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- b. The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- c. A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility and summary of testing results.
- d. Information on quantities and types of all raw materials stockpiled or composted during the year; results of any testing performed; quantity of compost sold, disposed or given away; and quantity on-site at the end of the year.
- e. The calculations for the seepage rate of the storm water basin.

PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an "Application for Transfer of Operating Permit" signed by the seller and buyer of the facility, along with the appropriate modification fee.

PERMIT RENEWAL REQUIREMENTS

Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than six (6) months prior to the permit's expiration date.

TERMINATION OF PERMIT

If the activities covered by this permit have ceased and the site "closed" and all materials removed from the site, the permittee may request termination of this permit prior to its expiration date. The permittee shall submit Form H for "Termination of a General Permit".

<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>					PAGE NUMBER 7 of 8	
					PERMIT NUMBER MO-0130419	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u> - Emergency discharge from stormwater storage basin (Note 1)						
Flow	MGD	*			once/day**	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		65	45	once/week**	grab
Total Suspended Solids	mg/L		110	70	once/week**	grab
Fecal Coliform	#/100mL	****			once/week**	grab
pH - Units	SU	***			once/week**	grab
Temperature	°F	*			once/week**	grab
Ammonia nitrogen as N	mg/L	****			once/week**	grab
Nitrate/nitrite as N	mg/L	****			once/week**	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2005</u> .						
<u>Outfall # 002</u> - Land Application Operational Monitoring (Note 2)						
Lagoon Freeboard	Feet	*			once/month	measured
Irrigation Period	Hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches/ acre	*			daily	total
Rainfall	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2005</u> .						
<u>Outfall # 003</u> - Irrigated Wastewater (Note 3)						
Total Kjeldahl Nitrogen as N	mg/L	*			once/year	grab
Ammonia Nitrogen as N	mg/L	*			once/year	grab
Nitrate/Nitrite as N	mg/L	*			once/year	grab
Phosphorus as P	mg/L	*			once/year	grab
PH	SU	***			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2005</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS** (continued)

- \* Monitoring requirement only.
- \*\* Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- \*\*\*\* Comply with water quality standards.

Note 1 - **No-discharge facility requirements**. Wastewater shall be stored and land applied during suitable conditions so that there is no-discharge from any stormwater storage basin or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year 365 day rainfall or the 25- year 24-hour storm event.

Note 2 - Basin freeboard shall be reported as basin water level in feet below the overflow level.

Note 3 - Wastewater that is irrigated shall be sampled at the irrigation pump or wet well. Wastewater irrigation is limited to 24 inches per acre per year.